

### Amendments to the Claims

1. (currently amended) ~~Sample A~~ sample cell with comprising a glass body ~~(1) comprising including~~ a gas inlet (4) and a gas outlet (5) and at least one orifice, wherein

- a plane glass window (2) is inserted into the orifice,
- the shape and size of the window (2) corresponds to the shape and size of the orifice,
- the orifice is limited by a rim,
- the rim is wider than the thickness of the window, and
- the rim of the window is fused with the rim of the orifice.

2. (currently amended) ~~Sample A~~ sample cell according to claim 1, ~~characterised in that~~ wherein the glass body has the form of a cylinder (4), the plane window (2) being formed by a disc which is inserted into the glass body at one end of the cylinder.

3. (currently amended) ~~Sample A~~ sample cell according to claim 1, ~~characterised in that~~ wherein the sample cell comprises two plane windows (2, 3) which are arranged parallel to one another.

4. (currently amended) ~~Sample A~~ sample cell according to claim 1, ~~characterised by~~ wherein two projecting radii (8) of at least one millimetre are formed on either side respective sides of the window as a result of the window being fused to the rim of the orifice or windows, ~~which radii are arranged directly adjacent to the circumference of the window and form a pressure-resistant joint with the rim of the orifice.~~

5. (currently amended) ~~Sample A~~ sample cell according to claim 1, ~~characterised by~~ wherein the glass body is made of borosilicate glass of which the

~~glass body (1) is composed and the window is made of borofloat glass of which the windows (2, 3) are composed.~~

6. (currently amended) ~~Sample A~~ sample cell according to claim 1, characterised in that wherein the wall of the glass body (1, 2, 3) is at least 5 mm thick.

7. (currently amended) ~~Sample A~~ sample cell according to claim 1, characterised in that wherein the external diameter of the glass body (1) is between 20 and 100 millimetres, in particular between 35 and 40 millimetres.

8. (currently amended) ~~Sample A~~ polariser for polarising an inert gas, comprising the sample cell according to claim 1, characterised in that wherein the ~~sample cell is part of a polariser for polarising a inert gas.~~

9. (currently amended) ~~Sample A~~ sample cell according to claim 1, characterised in that and valves (6, 7) connected to the gas inlet and gas outlet, the valves being which are produced being made from glass and comprise including ring seals made of ethylene propylene are provided at the an entrance and exit for the a gas.

10. (currently amended) ~~Method A~~ method of producing a sample cell according to claim 1, which is characterised in that comprising:

inserting a plane glass window into an orifice of a glass body with an orifice; that further has an inlet and an outlet is provided, a plane window is inserted into the orifice, the circumference of the window corresponding to the circumference of the orifice and the rim of the orifice being limited by a rim that is thicker than the thickness of the window, and

heating the rim is heated from the exterior at least twice in such a way that the glass in the vicinity of the rim melts, creating a fused joint between the window and the rim.

11. (currently amended) ~~Method~~ A method according to claim 10, in which the rim ~~or rims of each~~ the window is ground prior to insertion and prior to fusion with the rim of the orifice of the glass body, ~~in particular the rim is ground cylindrically and is then cleaned with an acid, in particular with hydrofluoric acid.~~

12. (currently amended) ~~Use of~~ A method of using a sample cell according to claim 1, comprising passing a gas through the sample cell at pressures of at least 10 bar.

13. (new) A sample cell according to claim 1, wherein the external diameter of the glass body is between 35 and 40 millimetres.

14. (new) A method according to claim 11, wherein the rim is ground cylindrically and is then cleaned with an acid.

15. (new) A method according to claim 14, wherein the acid is hydrofluoric acid.